

A NEW SPECIES OF FRESHWATER CRAB
(CRUSTACEA: ANOMURA: AEGLIDAE)
FROM INSULAR SOUTH CHILE

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Abstract.—A new species, *Aegla alacalufi* (Crustacea, Anomura, Aegliidae) from Madre de Dios Island in far southern Chile is described. Morphologically it closely resembles *A. papudo* Schmitt and *A. conceptionensis* Schmitt from Chile and *A. serrana* Buckup and Rossi from Brasil. Its most distinctive feature is the undivided telson plate, a character that is also present in *A. papudo* with which the new species probably shares a common ancestry.

Little information concerning the presence of members of the genus *Aegla* in the insular and continental Chilean territory south of Puerto Montt is available. Two species have been recorded from Chiloé Island (Haig, 1955; Bahamonde and López, 1963) and one from the Taitao Peninsula (46°30'S, 74°30'W) (Porter, 1917). The new species described here was collected on Madre de Dios Island during cruise 72-2 of the oceanographic vessel *Hero* to far southern Chile.

Aegla alacalufi, new species

Fig. 1

Holotype.—Instituto de Zoología, Univ. Austral de Chile, IZUA C-471-1, adult male collected in a brook at Puerto Henry, Madre de Dios Island (50°01'10"S, 75°18'45"W), Ultima Esperanza, Chile, at sea level, on 7 October 1972 by H. Moyano.

Allotype.—IZUA C-471-2, adult female. Paratypes: IZUA C-471-3 and MUZUC 16352 (Museo Zoológico, Univ. de Concepción, Chile), 2 males; IZUA C-471-4, C-471-5, MUZUC 16353, 4 females. Same locality and date as holotype.

Diagnosis.—(1) Rostrum short and triangular with apical chitinous scale amidst short hairs; (2) orbital spine absent; (3) rostral carina without scales; (4) anterolateral angle of second abdominal epimeron rounded; (5) sternum of fourth thoracic segment with medial, flattened, subdisciform offset; (6) telson plate undivided.

Description of holotype.—Carapace longer than wide, ovoid; gastric area conspicuously convex, appearing swollen and protuberant; dorsal surface

of carapace and chelae quite punctate and sparsely studded with fine bristles. Chitinous scales limited to those areas mentioned below.

Rostrum short, triangular, acuminate, with broad base and depressed dorsally; apical scale concealed by bristles; rostral carina moderately well developed, rounded dorsally, decreasing in height anteriorly and terminating near rostral tip; surface smooth but somewhat hairy; flanking troughs lacking.

Orbits wide; orbital spine absent although weak tubercle present on lateral margin; anterolateral angles of carapace short and blunt. Epigastric areas semicircular, protuberant, punctate, and sparsely setiferous; protogastric eminences inconspicuous. First hepatic lobe with margin slightly upturned, limited frontally by wide, shallow notch; second and third hepatic lobes poorly delineated.

Anterolateral branchial lobe short and blunt, edge of branchial areas hairy and somewhat nodose; cardiac area wide and trapezoidal; areola subrectangular and moderately convex. Dorsum of abdominal terga strongly convex; anterolateral angle of second epimeron rounded and hairy, its ventrolateral edge straight; telson plate undivided, its lateral margins straight and apex rounded. Sternum of fourth thoracic segment with broad low anteromedian tubercle, free border of which subdisciform, border immediately lateral to tubercle somewhat concave, and lateral margin of sternum elevated ventrally.

Antennal flagellum long and slender, longer antenna 1.25 times as long as cephalothorax. Chelipeds slightly robust, equal in size; chelae subrectangular and not inflated, their dorsal and ventral surfaces densely punctate and covered with fine setae, latter longer on dactylus, palmar crest, and ventrolateral margin of fixed finger; blunt nodule present near dorsal base of dactyl, that on left chela with minute apical scale; palmar crest insignificant, not surpassing contour of chela, its free border nodulate; dorsum of carpus scabrous with arcuate row of low blunt tubercles flanked apically by transversely aligned hairs; carpal crest clearly defined, nodulate proximal to long, conical, slightly curved distal spine, latter separated from anterior carpal lobe by wide semicircular notch; apex of carpal lobe blunt and inclined toward distal end of carpus; ventral margin of merus nodulate, dorsal margin with longitudinal row of 9 or 10 small blunt tubercles; distodorsal border smooth and somewhat hairy; ventral margin of ischium with low non-acute swelling at proximal end; remaining pereopods long and slender; dactylus of fourth pereopod longer than that of second.

Description of allotype.—Differing from holotype in following respects: rostral carina prominent and well marked almost to rostral apex; middorsal line on gastric area slightly elevated, darker, and covered by narrow band of short setae; anterior margin of protogastric eminences well delimited and bearing sparsely and irregularly placed hairs; proximal nodules of palmar

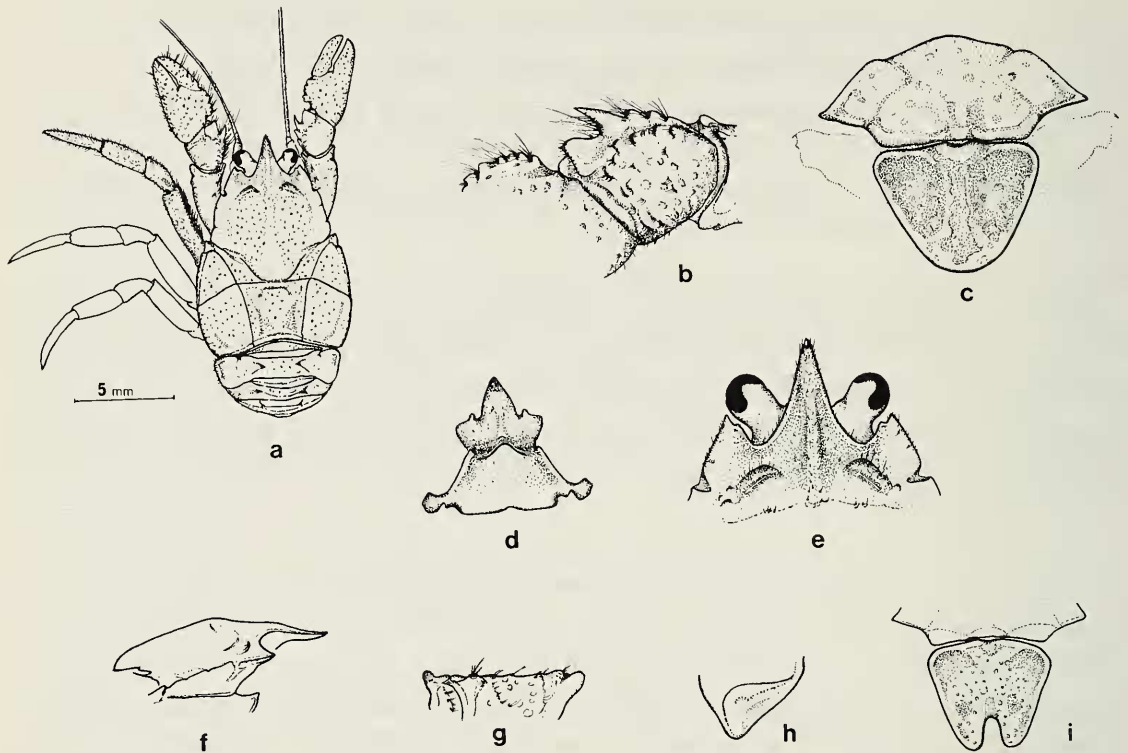


Fig. 1. *Aegla alacalufi*, n. sp. (all illustrations from holotype except i from female P_5): a, Dorsal view; b, Carpus of left cheliped; c, Telson plate; d, Third and fourth thoracic sterna; e, Dorsal view of rostral area; f, Lateral view of anterior part of cephalothorax; g, Inner ventral margin of ischium of left cheliped; h, Lateral view of second abdominal epimeron; i, Telson plate.

crest inconspicuous; apex of telson plate slightly notched and devoid of plumose setae.

Color.—(Alcohol fixed.) Gastric and cardiac surfaces bluish white (Cyanus 1), other dorsal cephalothoracic and abdominal surfaces yellowish brown tan (Flavus 3); pereiopods smoky tan (Flavus 5); dorsal surface of carpus and propodus of cheliped yellowish white, somewhat iridescent; ventral surfaces marmoraceous to light brown or ferruginous. (Color standards according to Paclt, 1958.)

Variations and measurements.—The type-series is morphologically homogeneous, the shape of the telson constituting the most variable character. All specimens have undivided telsons without a trace of a longitudinal suture; however, 1 male and 3 females have an obvious semicircular apical notch of variable depth, the margin of which lacks plumose setae. The telson with the deepest notch is depicted in Fig. 1i. Less conspicuous is the variation in the shape of the rostrum which varies from distinctly triangular to slightly ligulate, the apical part broadened and flattened. The chelae of the female are less robust than in the male, but the difference is not remarkable.

Table 1.—Somatometry of *A. alacalufi* n. sp., type-series. All measurements in mm; M: male; F: female; Holo: holotype; Allo: allotype; P₁ to P₆: paratypes.

Collection	IZUA-C 471-1	IZUA-C 471-2	IZUA-C 471-3	MUZUC 16352	IZUA-C 471-4	MUZUC 16353	IZUA-C 471-5	MUZUC 16353
Specimen:	Holo	Allo	P ₁	P ₂	P ₃	P ₄	P ₅	P ₆
Sex:	M	F	M	M	F	F	F	F
CL:	10.6	9.5	10.2	9.4	10.2	8.6	8.5	8.5
RL:	2.2	2.0	2.1	2.0	2.2	1.9	1.9	1.8
PCL:	7.7	6.9	7.3	6.8	7.3	6.2	6.1	6.1
FW:	3.5	3.2	3.4	3.2	3.4	3.0	3.0	2.8
PCW:	6.6	6.0	6.3	5.8	6.2	5.3	5.2	5.1
CW:	8.2	7.8	8.1	7.2	8.1	6.8	7.0	6.5
LCL:	12.1	11.0	—	10.7	12.0	10.1	9.9	9.4
RCL:	12.4	11.0	11.8	10.7	12.0	10.0	9.8	9.4
L2PL:	13.9	12.4	13.8	11.8	13.5	11.4	11.6	10.4
L2DL:	3.8	3.2	3.4	3.1	3.4	2.9	2.9	2.7
L4DL:	4.0	3.6	3.8	3.4	3.9	3.2	3.1	3.0
TL:	2.2	2.1	2.1	2.0	2.2	1.9	1.9	1.9

Measurements of the specimens constituting the type-series are presented in Table 1. These were made with the aid of calipers to the nearest 0.1 or 0.2 mm, depending on the size of the structure. Areas or structures measured are defined as follows: CL, carapace length, distance between rostral apex and posterior margin of cephalothorax; RL, rostral length, distance between rostral tip and midpoint of transverse line tangent to deepest points of orbital margins; PCL, precervical length, distance between rostral tip and midpoint of cervical groove; FW, frontal width, distance between tips of anterolateral angles of carapace; PCW, maximum precervical width, distance across third hepatic lobes; CW, maximum carapace width; LCL, left cheliped length; RCL, right cheliped length; L2PL, length of second left pereopod; L2DL, dactylar length of second left pereopod; L4DL, dactylar length of fourth left pereopod; TL, telson length (when apical notch present, posterior margin considered as line joining caudalmost parts of telson).

Natural history.—Little information is available; the type-series was collected on the sandy bottom of a forest brook outlet to the sea. Some specimens were found under detached *Macrocystis* Agardh (Phaeophyta) holdfasts about 50 m from the seashore.

Distribution.—Known only from the type-locality.

Etymology.—Latin genitive singular form of Alacalufes, a tribe of aborigines that inhabited the southern Chilean Archipelago (Encyclopaedia Britannica, 1961).

Comparison.—*Aegla alacalufi* should be included in the "Pacific rostrum type" group of species proposed by Schmitt (1942). Morphologically it resembles *A. concepcionensis* Schmitt (1940) and *A. papudo* Schmitt (1942)

from Chile and *A. serrana* Buckup and Rossi (1977) from Brasil. It shares the following features with them: dorsum of gastric area swollen and strongly convex; areola wide, subrectangular, and slightly convex; orbital spine absent, and apex of carpal lobe displaced distally. It differs from these aeglids as follows: rostral carina smooth and lacking scales; propodus of chela not inflated; palmar crest reduced, its free edge nodulated; upper longitudinal margin of merus of cheliped without spines; and sternum of fourth thoracic segment with anteromedial prominence. *Aegla alacalufi* resembles *A. conceptionensis* and *A. serrana* in lacking well defined proto-gastric eminences, and the inner ventral margin of the ischium of the cheliped bears neither spines nor scales. As in *A. papudo* and *A. serrana*, the anterolateral angle of the second abdominal epimeron of *A. alacalufi* is rounded. The latter differs from *A. conceptionensis* and *A. papudo* in lacking a small concavity behind the dorsal base of the anterolateral angle of the carapace. A comparison of the type-series of *A. alacalufi* with a sample of *A. papudo* (IZUA C-414: 1 male, 6 females, adults) from La Ligua (Aconcagua, Chile) revealed that both species have an undivided telson plate. Dr. Alan Solem (Field Museum of Natural History, Chicago, U.S.A.) (personal communication) confirmed that this character is also present in the type-series of *A. papudo*. None of the specimens of *A. papudo* examined, however, has a notch on the apex of the telson.

Remarks.—The finding of *A. alacalufi* at Madre de Dios Island extends the previously known range of the Aeglidae about 400 km to the south (see Porter, 1917; and Ringuelet, 1948).

Telson morphology places *A. alacalufi* and *A. papudo* in a subgroup apart from the other members of the genus *Aegla* in which it is dimerous. It is difficult at the present, however, to judge the systematic value of the character, particularly its relevance in establishing a new generic or subgeneric category. Unfortunately, previous authors have not consistently noted whether or not the telson of the species described by them was divided. Leach, 1821, and Hobbs, Hobbs, and Daniel, 1977, included the longitudinally articulated telson in their diagnoses of the genus, unaware of the undivided plate in *A. papudo*. Whereas the structure of the telson suggests a common ancestry for *A. alacalufi* and *A. papudo*, the possibility of morphological convergence in disjunct lineages cannot at present be disregarded.

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